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## THE PRESENT SUPPLY OF FREIGHT CARS<sup>1</sup>

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The usually accepted law of supply and demand applies no more to the supply of freight cars than to the supply of any other form of transportation. This is because the price of transportation—that is, the rate—does not vary. If this law of supply and demand applied to railroad work, when the demand for transportation was less than the supply the rate would fall until the demand increased or until the cost of producing transportation was reached. When the demand exceeded the supply the rates would rise until, under the stimulus of a high rate, the production of transportation would be quickened, and again the supply would meet a demand which might have been somewhat lessened by the increased rate. These fluctuations in price, so familiar to traders in all articles, do not occur in transportation. Freight rates are now stable, and when they do change, the slight changes made do not usually occur under the law of supply and demand.

The above statement I take to be axiomatic, but the facts are often lost sight of, because usually the supply of cars is greater than the demand. The business world takes it for granted that the car supply is adequate against all demands, and when a car shortage does come, it comes with a shock and as a surprise.

Everyone is used to receiving goods on tender of the price. So accustomed are we to the law of supply and demand that when, in trading, we tender an agreed price we feel we have a right to the goods. When people tender the agreed price for cars and do not receive the cars they feel shocked and even aggrieved, and too often they discuss the subject from the point of view of their grievance. Not infrequently they appeal to the law. Now, the common law enjoins carriers to make a reasonable provision of

<sup>1</sup>This paper was prepared by the author for simultaneous publication by the American Academy and by the "Railroad Age Gazette." The Academy volume appearing somewhat later than its usual time of issue has caused the paper to be printed in the "Railroad Age Gazette" in advance of its publication by the Academy.—[EDITOR.]

vehicles, but only a reasonable provision. It does not prescribe any excessive provision to meet an extraordinary demand, and it does not satisfy people with grievances. Attempts to modify the law so as to meet these grievances are not as yet general enough to demand attention here.

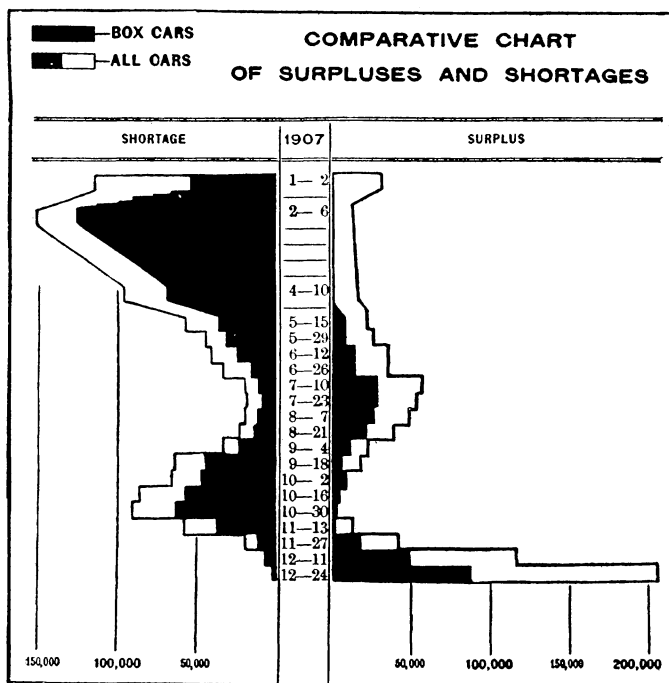
If it were practicable to apply the law of supply and demand to railroad rates, it seems possible that there would be more cars and other railroad facilities than there are now. Railroads, in the hope of profiting largely in periods of great demand, might be willing to take more risk in providing facilities which would be ordinarily unnecessary. In trades where the law of supply and demand applies, if only in a limited way—as in the hotel and livery business—the trader often feels justified in maintaining an unduly large number of rooms or horses, because he is repaid by high prices during a “rush season.”

Certainly, if the law of supply and demand affected railroad rates there would be few car shortages, and none of any extent or duration. An immediate adjustment of freight rates would keep the demand and supply approximately equal. This much is said only in explanation. There seems no prospect of any change in conditions which will subject the railroads to the law of supply and demand. It remains to consider the actual situation.

Here it will be found that the absence of the law of supply and demand aggravates the situation as soon as a car shortage appears. When the demand for a commodity in one locality so raises the price as to make it very profitable to supply the demand, the difference between freight rates from distant and from near points becomes a negligible quantity, and new sources of supply are opened up. The amount of the commodity available at these different points may become so great as to exhaust the car supply. When the car supply is once exhausted, the demand for cars is only limited by the imagination of the shipper. No increase in freight rates is possible to restrain this demand, and he is impelled to demand more and more cars by his certainty that he will make large profits if only he can somehow ship large quantities of his commodity. Of course, these profits will not accrue to him if all his rivals in trade can ship as well. Such over-shipments would break the market. But considerations of this kind do not avail with a man with a grievance and eager for profit.

This extreme demand for cars occurs, of course, only in times of car shortage, and chiefly from the producers of and the dealers in the great staples—coal, grain, ore, cotton, lumber and the like. For such commodities demands are often made on different railroads to supply cars to ship the same goods, causing an exaggeration of the demand which can hardly be estimated.

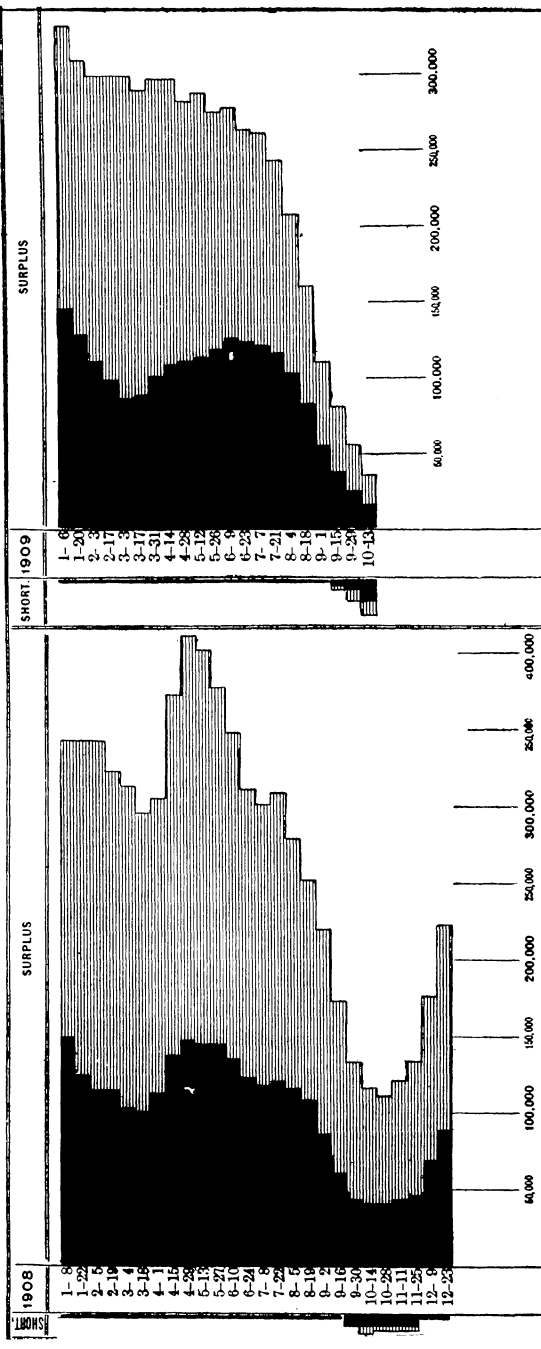
In a situation of this kind, all a railroad can do is to avoid unjust discrimination in its distribution of cars; and this is a very



difficult thing to do. It has been said that in times of car shortage, the only way in which a railroad can treat all its patrons justly is to make them all equally dissatisfied—and there is much truth in the remark. The railroads, are, however, trying to form rules of car distribution which will justly meet any emergency. The Interstate Commerce Commission and the state railroad commissions are helping in their way, and the Supreme Court will be heard from at its coming session.

# COMPARATIVE CHART OF SURPLUSES AND SHORTAGES

■ BOX CARS  
 ▨ ALL CARS



Something can be done by the railroads to increase their car supply, by the purchase of additional cars. This, however, is not as easy as it looks. In times of car surplus the railroads feel justified in doing but little more than replacing their equipment which goes out of service, and the manufacturers of freight cars meet this situation by a reduction of their forces.

When a car shortage comes, the railroads at once order cars and the manufacturers promptly accept the orders; but it becomes a physical impossibility to supply cars as fast as they are ordered. The coming of a car shortage is only an indication of revival of industry and consequent full employment of labor, so that the manufacturers of cars have great difficulty in increasing their forces to meet the sudden doubling or quadrupling of the demand, and as a consequence deliveries of cars are very slow. On such occasions railroads have had to wait for their new cars for a year or more. This is not always an unmixed evil, for many roads are so well equipped with cars that they could not use more to advantage without an increase of facilities. Most of the roads would need an increase in the number of their engines to properly handle any considerable increase in their cars. All roads in times of car shortage have great difficulty in procuring competent help to man their trains, yards and shops. Most roads would be obliged to increase their track facilities, both in the yards and on the line, before they could use any largely increased number of cars to advantage.<sup>2</sup>

It will therefore be seen, as stated above, that all the railroads can do at once, when they are confronted by a car shortage, is to avoid discrimination, with all the difficulties, real and imagined, attending such a course. When the car shortage is an ordinary one, such as may be expected every year for two or three months, this seems all that can be expected under the present circumstances. It is only when the car shortage extends over a longer period, as occurred in the car shortages of 1906 and 1907, that it becomes practicable for the railroads to so increase their facilities that the supply will equal the demand without the help of a change of freight rates.

There is still another way in which railroads can increase the

<sup>2</sup>It should here be noted that in acquiring new cars and new facilities, and also when they increase their force, the railroads find the old law of supply and demand working against them. The price of cars and all other facilities rises rapidly, and so do rates of pay.

efficiency of their equipment so as to postpone or end a car shortage, and that is by moving their cars faster, by loading them heavier, and by avoiding the movement of empty cars when this does not involve undue delay. This means, of course, that there is opportunity for the railroads to improve their methods in general; but it is also a matter in which the railroads are very largely dependent upon the public. The railroads are very anxious to load their cars full. Certain shippers find it to their advantage to ship small lots of freight at carload rates. The railroads would be very glad to have all cars loaded and unloaded promptly. Some shippers find it to their advantage to take their time in loading, to take their time in unloading, and to store freight in cars.

As may be imagined from the above statement of the general principles involved in car supply and the general conditions surrounding it, a recital of the present situation on this continent, involving, as it does, half the railroads and half the cars in the world, is a matter of considerable difficulty. The reports, however, received by the American Railway Association for the latest date available—that is, up to October 13, 1909—indicate a total shortage on all the principal railroads, except one, amounting to 23,431 cars. The Interstate Commerce Commission reports that a ton moves, on an average, 242 miles. The American Railway Association reports that the car, on an average, now makes about seventy per cent loaded mileage. We may assume from these data that the average time of the round trip of a car is something over twelve days. To obtain this we use the best monthly record of the American Railway Association—27.2 miles per day.

As there are something over two millions of cars on the continent, the indications are that 185,000 cars are loaded every day, and this shortage of 23,431 cars is therefore a shortage of thirteen per cent. This means that thirteen per cent of the freights offered are delayed one day or more before they can be shipped. But this is all that this shortage means. It does not necessarily mean any restriction in production, except in those trades where absolutely no storage is provided before shipment. It is not a shortage which can be compared with the great shortages occurring in 1906 and 1907. It should also be remembered that the present shortages are only local, and that the car supply is ample in the regions and trades where car surpluses are reported; and further, that the rail-

roads are now doing probably as much business as they did in October, 1907, when the shortages reported amounted to over 90,000 cars, or fifty per cent of the shipments.

It is too early to fully explain how the railroads of the country are carrying this immense business with so small a car shortage, but this can be said: The number of cars in the country has increased in the last two years by nearly 200,000, and the average capacity of the cars is much greater than it was two years ago. Further, the railroads of the country, by increasing their facilities and by improving their methods, are able to give a better movement to their freight cars than they did two years ago. In this they now have the assistance—even if it be the reluctant assistance—of a large part of the public in the enforcement of demurrage rules, and this has undoubtedly increased the equipment available by hastening the loading and unloading of cars.

The present shortage appears to be on the increase, as will be seen by the accompanying chart. As noted above, it is not a net shortage. Although there are shortages reported on various railroads amounting to this figure of 23,431, there are surpluses reported amounting to more than this—namely, to 35,977. This surplus amounts to very little compared to the surpluses which we have had in the last two years; but it will be noted that the rate of decrease in the surplus is much slower than it was one and two months ago.

There are several reasons why this surplus is not used to fill the shortages. In the first place, the surplus cars are generally stored at considerable distances from the points where shortages occur, and not infrequently represent cars in transit to meet shortages. Second, the surpluses are often in one kind of car, while the shortages are in other kinds of cars. It is, of course, practicable, in an emergency and at additional expense, to use box cars for products which are ordinarily shipped in open cars, and vice versa. This occurred two years ago, but the present shortage is not yet sufficient to justify devices of this kind.

No survey of the situation is adequate without an indication of the prospects for the future, at least for the immediate future, and such indications are usually based on experience. Here we are somewhat at fault, for the records of car supply in the country only go back to January 1907. All prior records are local in their character. A summary of the records of the American Railway



Association is given herewith in graphic form. A comparison with the two prior years shown would seem to indicate that the shortages will not increase much longer, and the surpluses will increase very soon. It must, of course, be considered that the records for 1908 were made at a time when the business was much less than it is now; and the records for 1907 were influenced by the panic.

The indication of this record is largely confirmed by the recollection of railroad men of many October shortages which have been "cleaned up" between Thanksgiving and Christmas. On the other hand, many well posted men believe that the present increase in production will be maintained throughout the winter, and that we are about to face another long continued car shortage. With this view many railroads are ordering additional equipment.

Among the assumptions of this paper which may not be generally accepted, is the assumption that the railroads of the country have made adequate provisions for the average needs of the shippers, and the assumption that the periods of car shortage are comparatively infrequent. This view may not be accepted by railroads and shippers who have suffered so severely in previous car shortages that the long continued car surplus of the last two years seems to them exceptional. There are possibly railroads and shippers who have operated more months under a car shortage than under a car surplus, but this is very doubtful. Certainly, there are few shippers of freight in small lots who have had occasion to know that there has ever been a car shortage at all. The only shippers who can feel that they have really suffered in car shortages are the producers of and dealers in the great staples, and usually those staples most subject to the law of supply and demand and of which the price varies most. That there were great car shortages in the years 1906 and 1907 is denied by no one, but these shortages were wholly exceptional. The only shortage of similar magnitude was that which followed the anthracite coal strike of 1902, when the production of that staple was absolutely discontinued for such a long time that the efforts to supply the demand with a similar staple created an extreme shortage in cars and other things. Other car shortages are remembered, as in 1901 and 1887, but none of them compared with the car shortages of 1906 and 1907; and here we should remember that the increase in industry during those periods did not equal the increase in industry of 1906 and 1907.

It is hoped that the imperfections discovered in detail in this paper may be traced to the lack of evidence available on this very important subject. It is somewhat unfortunate that this attempt to deal with it must be made at a time when conditions are so rapidly changing. It seems, however, important that an attempt to give the present state of car supply should accompany statements of the present business situation. It is even more important that it should be appreciated that the railroads are alive to the situation and are striving to meet it, even after the untoward events of the last three years.

It must not be supposed that this paper is an attack on any principle of collectivism, as opposed to any principle of individualism or *laissez faire*. Experience has shown that unregulated competition between railroads is destructive, and it may well be urged that all the plans heretofore devised to meet this unbridled competition are based on collectivism. How far this principle should extend in railroad and corporate affairs is hard to say. The spread of collectivist principles, however, in the affairs of a country so thoroughly imbued as ours with the *laissez faire* doctrines of the two last centuries is bound to create friction, and any attempt to bring about a better understanding of such a problem as this of car supply should be useful.